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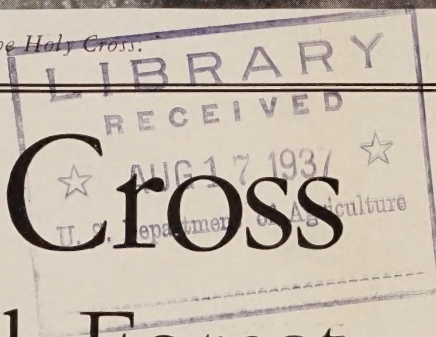


Mount of the Holy Cross.

Holy Cross

National Forest

Colorado



United States
Department of Agriculture
Forest Service
Rocky Mountain Region





Lake Constantine—

Forest Takes Its N

WORLD famed is the Mount of the Holy Cross from which this forest takes its name.

Long before there was definite knowledge east of the Rockies of the mountain or the symbol it bears the name was known. Its origin is so confused by Indian, Spanish, and American legends that the true source is doubtful. The most generally accepted story gives to two Spanish monks, who wandered through this region teaching the Indians, the honor of discovery of the mountain. They also gave it the name.

The Holy Cross National Forest was established by proclamation of President Theodore Roosevelt on August 27, 1905. It stretches westward from the Continental Divide in central Colorado. Included are the headwaters of the following well-known rivers: Frying Pan, Roaring Fork, Crystal, Eagle, and Piney. Within its boundaries is a total of 1,171,409 acres. Of this, 1,085,885 acres is owned by the Government; the remainder consists of State, municipal, and privately owned lands.

History tells that from antiquity the Utah Indians (Utes) occupied the mountain country of Colorado. Until 1863 they claimed all the territory west of the junction of foothills and plains. Their superior strength and numbers enabled



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Holy Cross Mountain.

ane from a Mountain

them to hold these lands from other tribes and the ever-advancing white man. Abundance of game made the area unusually attractive.

There were three branches of the confederated tribes—the Southern, Uncompahgre, and White River Utes. The latter, under Chief Nevava and subchiefs Colorow, Antelope, Douglas, Johnson, Jack, Schivitz, and Bennett, occupied this region and used the mountain valleys as their hunting ground.

In 1842 to 1845, Capt. John C. Fremont made trips throughout the State. In the latter year he entered this region over Tennessee Pass, came down the Eagle River some distance, and crossed into what is now Routt County. This is the first recorded visit of white men into what is now the Holy Cross National Forest.

Although the account of Fremont's trips covers the earliest known authorized exploration, it is also written that John Jacob Astor had his fur traders throughout most of the Rocky Mountain region as early as 1840. Astor City on the Eagle River at the foot of Battle Mountain was the first trading post on the western slope and undoubtedly the first settlement on this forest. One of the cabins was still standing when the first permanent settlers arrived.

Over Highway or Railroad

The Holy Cross National Forest is easily accessible from the east side of the Divide by way of Highway U. S. 40S (Tennessee Pass), Carlton Tunnel Highway (Colorado 104), and Independence Pass Highway (Colorado 82). The main line of the Denver & Rio Grande Western Railroad enters the forest over Tennessee Pass. There are numerous short county roads leading off from the main highways that enable the traveler to penetrate into the less frequented portions of the forest.

The Forest Service is also constantly extending its system of forest development roads. The one of most service to the general public leads to Camp Tigiwon. An excellent system of trails is found over the entire area, enabling those who wish to do so to make horseback trips into the more inaccessible country.

Why National Forests?

The national forests were established for the purpose of growing timber to supply the Nation's needs; to preserve an adequate cover, which helps regulate the flow of streams and prevents erosion; and to make available all the resources in such ways as will render them of greatest service. Conservation with use is the keynote in their management. They contain valuable public resources to be protected, developed, and used in perpetuity for the benefit of all the people.



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Live trees to be cut are first marked by a forest officer.



F-261249

CCC's building the trail to Notch Mountain.

There are now about 160 national forests in the United States. These are located in 37 different States and Territories. They contain approximately 170,000,000 acres of public lands, and are administered by the Forest Service, Department of Agriculture.

Harvesting is Selective

The Holy Cross National Forest contains approximately 2,000,000,000 board feet of timber. Most of this is Engelmann spruce and lodgepole pine. There are, however, small quantities of Douglas fir and other species in isolated tracts. Marketing of the timber is going on continuously. Cutting is so regulated as to leave the areas cut over fully stocked with young growth, and capable of producing another crop in a short period of years. Only the mature timber is cut; that is, trees which because of age or other conditions have ceased to make satisfactory growth.

All live trees to be cut must first be marked by a forest officer. Such selective cutting removes from 50 to 75 percent of the volume of virgin stands.

Lumbering in the national forests is carried on by private persons or companies. All timber to be sold is appraised, advertised, and sold to the highest bidder. Returns from these sales, and from grazing and other uses of the forests, is paid into the National Treasury. Twenty-five percent of this money is then returned to the counties in which the national forest is located, in lieu of taxes to be used for either school or road purposes. An additional 10 percent of receipts is made available to the Forest Service for the construction and maintenance of roads and trails.

Grazing is Regulated

During recent years, the Holy Cross has provided summer pasture for an average of 18,000 cattle and horses, and



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Cattle on their way to the high country.

70,000 sheep. Grazing is regulated by establishment of proper periods of use, restricting the number of animals grazed to the safe carrying capacity of the range, and by requiring compliance with sound principles of range management. The aim in grazing administration is to maintain a surface cover of vegetation, and at the same time maintain the local livestock industry.

Wildlife and Fish

Nearly all streams and lakes have been stocked with fish by the Forest Service in cooperation with the Colorado State Game and Fish Department and the United States Bureau of Fisheries. There are approximately 250 miles of streams and 42 lakes that afford good fishing.

There is an abundant supply of game animals. The most recent estimate, made in 1936, shows about 12,000 mule deer, 1,100 elk, and 250 mountain sheep. Black and brown bear are fairly common, but their keen sense of smell and acute hearing makes it easy for them to avoid being seen. In addition, there are numerous beaver, mink, marten, fox, and other small fur-bearing animals.

The Snowmass State Game Refuge and the Holy Cross Fish, Game, and Fur Sanctuary are located within boundaries of the forest. A heavy fine may be imposed on anyone killing game animals or birds within the boundaries of the refuge or sanctuary.

Mines Yield Rich Ores

Mining has been in progress within the Holy Cross National Forest since 1879, when the first claims were staked in the vicinity of Red Cliff and Aspen. During the 15 years from 1879 to 1894, numerous mines were opened and developed. Among them were the Hornsilver, Little Ollie, Black Iron, Silver Wave, and others in the Red Cliff district; and the Smuggler, Mollie Gibson, Spar, Galena, Aspen, and others near Aspen.

The Mollie Gibson, said to have yielded the richest silver ore ever discovered, was located in the late 80's. The first big strike was made on December 9, 1890. The largest piece of chemically pure silver ever mined in the world was found in this mine. It weighed 1,840 pounds.

The Smuggler mine, located at Aspen, is credited with the greatest production of ore. The Aspen mine was also rich. Others produced metals valued in the millions. With decline in the price of silver in 1893, practically all the silver mines at Aspen were closed. The population then dwindled from approximately 15,000 in 1893 to about 800 at the present time.

Figures compiled by the United States Bureau of Mines show ores valued at \$102,945,576 were taken from the mines in Pitkin County from 1880 to the close of 1934. About 72 percent of this was silver, 26 percent lead, and the balance divided among zinc, gold, and copper.

Mines in Eagle County have been preponderantly producers of base metals. Here, in the period from 1880 to the close of 1934, ores valued at \$45,502,750 were produced. Zinc represents about 46 percent by value, followed by silver with 23 percent, lead 12 percent, copper 11 percent, and gold 8 percent.

Mineral resources within national forests are open to location and development exactly as on unreserved public lands. The Forest Service assists the bona fide mining man in every way possible. It refuses, however, to allow public rights in the forest to be acquired by fake or fraudulent claims.

Maroon-Snowmass Primitive Area

One of the most beautiful parts of the forest, located south and west of Aspen, has been designated as the Maroon-Snowmass Primitive Area. It contains 62,600 acres, and



F-183203

Deer in the foothill country.

HOLY CROSS NATIONAL FOREST
COLORADO
SIXTH PRINCIPAL MERIDIAN
(1937)

[illegible]

Compiled by F.E.W. and J.W.E.
Dedham, Mass. 1946-1948

PUT OUT YOUR CAMP FIRE WITH WATER

abounds in rugged peaks, alpine lakes, and rushing streams. Within it is located Snowmass Lake, one of the beauty spots of America. There are four peaks more than 14,000 feet high within the area. These are Castle, Maroon Bells, Pyramid, and Snowmass. No motor highways, summer homes, or resorts are permitted here.

About one-third of the area contains merchantable stands of lodgepole pine and Engelmann spruce timber, which is inaccessible at present. The greatest value of this timber is in retarding the melting of the deep cover of snow that falls each winter, and in delaying run-off after heavy rains. The water is intensively used for irrigation purposes.

They Come for Recreation

National forests are the outdoor playgrounds for increasing millions of persons. Available figures indicate an increase of from about 3 million persons passing through these areas in 1917 to more than 71 million in 1936, although these counts may include some "repeaters." The Holy Cross has shared in this great increase in popularity.

Campers, sportsmen, and those who seek health, rest, or other forms of outdoor recreation find great pleasure in the natural environment that the forests afford. All enjoy the quiet beauty of placid lakes and wandering mountain streams, the frontier flavor of the trackless wilderness, the murmur of the waterfalls, and the scent of pine, fir, and cedar.

Recreational features of the Holy Cross are intensively used by people from the adjoining towns and agricultural areas. Tourists from the Central and Southern States come to picnic and camp here, are guests at resorts and hotels, or occupy cabins erected under special use permits. Thousands drive over the forest roads annually.



F-283453

Notch Mountain shelter house (elevation 13,200 feet).



F-293101

Community house at Camp Tigiwon.

The region adjacent to the Mount of the Holy Cross has been intensively developed during the past year. The improvements include a new road from U. S. 40S to Notch Mountain Creek, a distance of 9 miles. This road leaves U. S. 40S approximately 2 miles east of Minturn at the west end of the overpass on the Denver & Rio Grande Western Railroad. There is also a complete new system of high-class trails, totaling 9 miles. These enable the visitor to travel from the end of the road to points from which an excellent view of the cross may be obtained. A stone shelter cabin on top of Notch Mountain, at the end of the Shrine Trail, has been constructed to enable visitors to view the cross in comfort in case storms overtake them when on the summit of Notch Mountain.

Four campgrounds were improved with toilets, tables, etc. A large community building was constructed at Camp Tigiwon. It is open to the public in connection with meetings during the annual pilgrimage held every summer.

At 16 different locations in the forest improved campgrounds have been established. They provide sanitary stopping places for visitors and aid in preventing fires. Tables, toilets, garbage pits, and fire grates are provided. No charge is made. Visitors are requested to keep these facilities clean and sanitary and to put out their campfires before leaving. Those who follow the rules of health and fire protection help to make the forest safe.

Sites for Summer Homes

Summer-home lots on desirable sites have been surveyed and designated for the use of those who wish a more permanent form of summer residence than a transient tent. They may be leased for a nominal fee, ranging from \$15 to \$25 a year for a lot, according to use, location, and desir-



ability. Maps, descriptions, and full information concerning them may be obtained at the office of the Forest Supervisor at Glenwood Springs, Colo.

Fire—the Red Enemy

There are many large areas on the forest which show scars of forest fires. All the large burns are results of fires which occurred before the establishment of the Holy Cross National Forest. Since organized fire protection was started 27 years ago 3,336 acres of Federal land within this forest have been burned, an average annual loss of 123 acres.

Fire is the worst enemy of the forest. One match, one cigarette, one campfire left carelessly may result in the destruction of millions of trees.

Before man entered the scene the only cause of forest fires was lightning. Indians burned forests in warfare and to get game. The pioneers burned forests as the easiest method of clearing land. Such burning was insignificant to what is going on today. Man now has lightning beat, not for speed but in the number of forest fires started.

The seriousness of forest fires may be realized when they are considered as the cause of a \$450,000,000 yearly waste, or enough to build 150,000 moderately priced homes. There might be added to this the cost of fighting fires, the burning of organic matter of the soil, soil erosion, floods, and stricken communities.

When camping, riding, fishing, hiking—in fact, any time—any place that you are using fire in any form, be sure it is out before leaving. Don't handle fire in any form carelessly.



F-23426A

An old burn on the Frying Pan River.

Both Federal and State laws impose penalties on those who are careless with fires on forest areas. Evidence of such carelessness or of maliciousness should be reported to forest officers.

Just Ask the Rangers

The Holy Cross National Forest is divided into five districts, each under the care of a forest ranger. These districts, with headquarters of the forest officers, are as follows:

<i>District</i>	<i>Headquarters</i>
Red Cliff District	Red Cliff, Colo.
Eagle District	Eagle, Colo.
Frying Pan District	Basalt, Colo.
Aspen District	Aspen, Colo.
Crystal River District	Carbondale, Colo.

The Forest Supervisor's office is located at Glenwood Springs, Colo. Information may be obtained by writing the Forest Supervisor or any of the forest rangers.

TIMBER PRODUCTION IS NOT THE ONLY PURPOSE OF THE FORESTS. GROUND FIRES THAT MAY NOT ENTIRELY DESTROY MATURE TREES WILL BURN THE FOREST COVER THAT IS SO IMPORTANT IN THE REGULATION OF WATER RUN-OFF.

F-256955

Summer home in the forest.



TREES OF THE HOLY C

Conifers

PINES.—Four species. The pines have their needles gathered together at the base in bundles of from two to five and never singly. The cones are woody and pendent.

LOGEPOLE PINE (*Pinus contorta*).—The common pine found on this forest. Needles $1\frac{1}{2}$ to 2 inches long, yellowish green, always in bundles of two. Bark thin. Cones one-sided, $1\frac{1}{2}$ to 2 inches long, often clinging to the branches for years without opening or dropping their seeds, and found on all parts of the branches. Cone scales armed with short spines.

PONDEROSA PINE (*Pinus ponderosa*).—This tree was formerly known as western yellow pine. Needles 3 to 5 inches long, deep green, usually three in a cluster, but sometimes two, and in tufts at the ends of the branches. Cones 3 to 4 inches long, found usually near the ends of the branches. Cone scales armed with spines. When young the bark is dark, and the tree is often called "black-jack." When older the bark is yellowish and occurs in thick, scaly ridges.

LIMBER PINE (*Pinus flexilis*).—Needles dark green, $1\frac{1}{2}$ to 3 inches long, always in bundles of five. Cones 3 to 5 inches long, with seeds about one-third inch in length. Bark light gray or silvery white except on old trunks, which are blackish brown and furrowed. The small branches and twigs bend easily; hence the name.

PINON OR FINON PINE (*Pinus edulis*).—Pinon is confined to the foothills. Needles are $\frac{3}{4}$ to $1\frac{1}{2}$ inches long, in



ROSS NATIONAL FOREST

clusters of two, rarely three. Cones $1\frac{1}{2}$ to 2 inches long and almost as broad, containing large seeds which are the pinon nuts of trade.

SPRUCES.—Two species. Needles scattered over the twigs singly. Needles sharp-pointed, four-sided, leaving twigs rough like a grater when they fall off. Cones pendent, with parchment-like scales, falling off the tree whole.

ENGELMANN SPRUCE (*Picea engelmannii*).—The new-growth twigs are covered with soft, short hairs. Needles less rigid and less sharply pointed than those of blue spruce; green, dark blue, or pale steel blue. Cones 1 to 2 inches long. Bark is dark reddish-brown and separates in the form of small rounded scales. Main trunk, in contrast to blue spruce, is smooth and clean.

BLUE SPRUCE (*Picea pungens*).—The new-growth twigs are always smooth, needles stiff with sharp points, varying in color from silvery blue to green. Cones $2\frac{1}{2}$ to 5 inches long, averaging twice the length of Engelmann spruce cones. Bark of mature trunks gray and deeply furrowed. Main trunk always has numerous short twigs pushing out between branches.

FIRS.—Two species. Needles blunt, flat, and soft to the touch, without any stem where they join branches. Needles leave flat, round scars when they fall off, in contrast to short stubs left by spruce needles on twigs. Cones, unlike those of other species, stand erect. In the fall the cones fall to pieces and leave only a spike on the branch. Buds blunt and pitchy. Blisters, containing liquid pitch or balsam, are scattered over the smoother bark.

ALPINE FIR (*Abies lasiocarpa*).—Flat leaves 1 to $1\frac{3}{4}$ inches long. Needles tend to turn upward. Cones $2\frac{1}{4}$ to 4 inches long, dark purple. Bark smooth, grayish white, becoming furrowed only where the tree approaches a foot in diameter. Tree has a sharp, spire-like crown. Usually found mixed with Engelmann spruce.

WHITE FIR (*Abies concolor*).—Needles longer and coarser than those of alpine fir, often 2 inches or more long. Grows at lower altitudes, often with ponderosa pine and Douglas fir. Cones usually larger than those of alpine fir, commonly dark purple, sometimes grayish green. Wood is similar to that of alpine fir.

DOUGLAS FIR (*Pseudotsuga taxifolia*).—Though similar in name, this species has no direct connection with the true fir. Needles flat, $\frac{3}{4}$ to $1\frac{1}{2}$ inches long, with a short stem that joins them to the branches. Cones with three-pronged bracts protruding from between the cone scales. Cones persistent, falling off the tree whole. Buds are sharp pointed, shiny, smooth, red-brown. (Commonly called red spruce.)

JUNIPERS OR CEDARS.—Three species. Cones reduced to small bluish berries, needles reduced to little green scales attached closely to the twigs, though sometimes spreading and about one-half inch long, making twigs very prickly to the touch.

ROCKY MOUNTAIN RED CEDAR (*Juniperus scopulorum*).—Berries about the size of small peas, bark scaly, twigs slender and graceful, heartwood red. Distinguished from Utah and one-seed juniper by two seeds (usually) in the berry, whereas the others usually have but one. Berries are bluish or black, while the others are reddish or coppery colored.

ONE-SEED JUNIPER (*Juniperus monosperma*).—Berries small, mostly less than $\frac{1}{4}$ inch in diameter, usually contain only one seed; they are covered with a bluish bloom which may be rubbed off, exposing the true reddish or coppery color. Berries of the one-seed juniper require only 1 year to mature. Twigs stiff and stout. Heartwood brown.

UTAH JUNIPER (*Juniperus utahensis*).—Berries $\frac{1}{4}$ to $\frac{1}{3}$ inch long. Bark ashy-gray, about $\frac{1}{4}$ inch thick, broken into long thin scales. Wood light brown, with nearly white sapwood. Berries are reddish brown, have one or rarely two seeds, mature in 2 years. A small, bushy tree, rarely over 20 feet high.

KEEP THE FOREST

Broadleaf Trees

ASPEN (*Populus tremuloides*).—Commonly called “quaking aspen” or “quakers.” Flat, nearly heart-shaped leaves, about 2 inches across, that tremble characteristically in a breeze. Bark whitish or very pale green; smooth, with black scars where branches have dropped off. Trees rarely more than 60 feet high.

NARROWLEAF COTTONWOOD (*Populus angustifolia*).—Usually a tall tree, 40 to 60 feet high. Bark dark gray, heavily ridged half or two-thirds of the way up the tree; above that, smooth pale green. Leaves $\frac{1}{4}$ to $\frac{1}{2}$ inch wide by 2 or 3 inches long; very similar to willow leaves. Usually found along streams at lower elevations.

ALDER (*Alnus tenuifolia*).—Found along and overhanging the streams, usually in clumps, several trees growing from the same root, frequently 4 to 6 inches in diameter and 15 to 25 feet high. Leaves large and sharply double-toothed. Mature seed-bearing fruit noticeable in winter.

MOUNTAIN MAPLE (*Acer glabrum*).—Usually a shrub, but frequently 20 to 30 feet high. Paired opposite buds, sharply lobed leaves, light gray bark, and paired winged seed. Leaves 1 to 2 inches long, opposite each other.

WILLOWS (*Salix* sp.).—The common shrub of creek bottoms. Usually narrow, sharp-pointed leaves. Some willows attain a diameter of 4 inches and a height of 15 to 25 feet. Buds are covered by a single scale.

SCRUB OAK (*Quercus* sp.).—Usually a shrub, rarely over 15 feet high. Alternate leaves, smaller at the base than at the ends, with deep lobes; frequently drying on the tree and remaining over winter. Fruit, a short, pointed acorn. Forms dense thickets at lower elevations. Often valuable for fence posts.

WESTERN CHOKE CHERRY (*Prunus demissa*).—Clustered flowers and fruit. Alternate leaves, sharply pointed. Bark, leaves, and seed bitter. Fruit black or deep red when ripe. Tree, or more often a shrub, 3 to 15 feet high.

WESTERN SERVICEBERRY (*Amelanchier florida*).—Leaves silvery, sharply toothed toward the end, and alternate on branches. Trees, or more often shrubs, 6 to 15 feet high. Flowers white and in clusters. Five hard seeds in each berry. Berries edible; nearly black when ripe.

LEAN AND GREEN

Six Rules on Forest Fire Prevention



1. **MATCHES.**—Be sure your match is out. Break it in two before you throw it away.
2. **TOBACCO.**—Be sure that pipe ashes and cigar or cigarette stubs are dead before throwing them away. Never throw them into brush, leaves, or needles. Don't smoke while traveling through the woods.
3. **MAKING CAMP.**—Before building a fire, scrape away all inflammable material from a spot 5 feet in diameter. Dig a hole in the center and in it build your camp fire. Keep your fire small. Never build it against trees or logs, or near brush.
4. **BREAKING CAMP.**—Never break camp until your fire is **OUT—DEAD OUT.**
5. **BRUSH BURNING.**—Never burn slash or brush in windy weather or while there is the slightest danger that the fire will get away.
6. **HOW TO PUT OUT A CAMP FIRE.**—Stir the coals while soaking them with water. Turn small sticks and drench both sides. Wet the ground around the fire. Be sure the last spark is dead.

Rules for Health Protection

1. **PURIFICATION.**—Mountain streams will not purify themselves in a few hundred feet. Boil or chlorinate all suspected water.
2. **GARBAGE.**—Burn or bury all garbage, papers, tin cans, and old clothes.
3. **EXCRETIONS.**—Bury a foot deep all human excrement at least 100 feet from streams, lakes, or springs.
4. **WASHING.**—Do not wash soiled clothing, utensils, or bodies in streams, lakes, or springs. Use a container and throw dirty water on ground away from water supply.
5. **TOILETS.**—Use public toilets if available. They are properly located. Toilets should be at least 100 feet from streams and not in gulches.
6. **OBSERVE LAWS.**—Observe the rules and endeavor to have others do the same. National and State laws inflict heavy penalties for health-law violations. Report all violations and insanitary conditions (including dead animals) to nearest health officer or forest officer.